REMARKS

In view of the above amendments and following remarks, reconsideration of the rejections contained in the Office Action of March 13, 2006 is respectfully requested.

In the Office Action, the Examiner rejected claims 1-12, 21, 23, 26 and 28 as being anticipated by Hanson et al., U.S. Patent No. 6,710,754 (Hanson). In addition, the Examiner rejected claims 13-19 and 22 as being unpatentable over Hanson in view of Hirao et al., U.S. Patent Application No. 2002/0067366 (Hirao). Further, claims 20, 24, 25 and 31 were rejected as being unpatentable over Hanson in view of Baeger, U.S. Patent No. 4,521,078 (Baeger). Claims 29-30 and 32-33 were further rejected as being unpatentable over Hanson in view of Wright, U.S. Patent Application No. 2004/0036952 (Wright). Claims 34 and 35 were further rejected as being unpatentable over Hanson in view of Baeger and Hirao. Claim 27 was further rejected as being unpatentable over Hanson by itself. However, it is respectfully submitted that the present invention clearly patentably distinguishes over each of Hanson, Baeger, Wright and Hirao, particularly as now set forth in new claims 36-69.

The present invention is directed to a display apparatus known to mounted in a vehicle. The object of the present invention is to provide a display apparatus that improves both visibility and operability.

Noting the drawing figures in the description, a transmission type display portion 2 is mounted in a vehicle forward of an image display device 3. The portion 2 can be turned to entirely transparent or at least partially transparent, and the image display device 3 is provided rearwardly thereof so that it can be seen through the transmission type display portion 2. The transmission type display device 2 is further provided with a touch panel function. A control portion controls the transmission type display portion and the rearward type display portion. It is noted that spacing the rearward display portion rearwardly of the transmission type display portion allows for a longer focal range from the driver, which results in the eyes needing to make less adjustment when shifting between viewing the road and viewing the display. A number of further features and advantages result from the present invention, and will be discussed below in the context of the claims.

New claims 36-69 replace original claims 1-35. Claims 36, 58 and 66 correspond to independent claims 1, 4 and 32, respectively.

In making the rejections referenced above, the Examiner primarily cited U.S. Patent No. 6,710,754 to Hanson. However, each of the independent claims clearly distinguishes over Hanson.

In particular, each of the independent claims recites a display apparatus mounted in a vehicle. For example, the transmission type display portion of claim 36 is recited as being mounted in a vehicle, and the rearward display portion is also recited as mounted in a vehicle rearwardly of the transmission type display portion. Claim 58 emphasizes that the rearward display portion is spaced rearwardly of the transmission type display portion. Claim 66 recites that the transmission type display portion is mounted at a forward position in the vehicle and that the rearward display portion is mounted rearward of the transmission type display portion in the vehicle and spaced apart from the transmission type display portion. A number of additional features are recited in the independent claims and the dependent claims corresponding thereto.

Hanson relates to a display system which includes a display 110 that may be a foldable display or a flexible display. It is configured to provide images across substantially the entire planar surface thereof, providing a relatively large display area. Note the bottom of column 2 of Hanson. An output device or unit 120 is movable over the display 110 in a variety of directions. Note directional arrows 125. Thus, as may be generally seen, the output device 120 can be moved to different parts of the display 110 and provide more specialized information with regard to that area of display 110. As can be seen from the drawing figures, it appears that the output unit 120 is placed directly on the display 110.

Hanson, it may be noted from the background thereof, addresses the fact that the need for displays to provide a large amount of information has led to large form factor displays. Hanson recognizes that the resources to refresh or support such a display can burden both the processor and the power source. As such, Hanson has recognized the need for a portable computing device that uses a large form factor flexible, ridged or semi-flexible display that is used in conjunction with a movable auxiliary input and output device that is movable over the surface of the display. Thus it is clear that Hanson bears no relationship at all to display apparatus of the type provided with vehicles. Thus, it is clear that Hanson cannot anticipate any of the claims now presented.

Of the secondary references cited by the Examiner, Baeger is directed to an electro-optical display without specular reflection for displaying characters and symbols in a display surface facing a viewer on an instrument panel of an automotive vehicle. The object of Baeger is to create a display that can be easily read and is free of specular reflection. Thus Baeger is concerned with a display surface being arranged in a position other than 90° to the direction in which the observer uses the display surface. However, there is nothing from Baeger that would suggest mounting the device of Hanson in a vehicle.

Wright is directed to a vehicle license plate cover that is usable to selectively obfuscate indicia of a license plate. Thus it neither relates to the system of Hanson nor the system of the present invention. It does not suggest the mounting of the device of Hanson in a vehicle.

Hirao is directed to a display apparatus for a vehicle. The object of Hirao is to provide a control technique that alters the picture display region on a display screen in order to reduce inconvenience to the driver. A sensor senses the position of the eye of the driver, and a controller reduces the size of the display on the screen of the display unit and may shift the position of the display region upwardly toward the driver's side as the eye position moves forward.

Thus it may be seen that Hirao is directed to a display apparatus for a vehicle. But in this case as well, there is nothing from Hirao that would suggest mounting the device of Hanson in a vehicle.

The device of Hanson, as discussed above, relates to an input and output device usable together with a large form factor display. It is clear that such a large form factor display would not be the type considered for a motor vehicle. Indeed, the suggestion of Hanson to have a movable input and output device together with such a large display would clearly be inappropriate for a vehicle in view of the small amount space and the necessity for the manipulation of the input and output device across the larger display 110. Thus there is nothing whatsoever in the prior art that would suggest any mounting of the device of Hanson in a motor vehicle, or the use of a system such as taught by Hanson with a motor vehicle display apparatus. The arrangement of Hanson is fundamentally inconsistent with use in a vehicle.

In view of the above it is respectfully submitted that all of the claims that have now been presented clearly distinguish over Hanson and the secondary references cited by the Examiner. Some additional points raised by the Examiner do warrant mention, however.

In rejecting claim 3, the Examiner cited Hanson as having a touch panel element inside of the transmission type display portion, citing column 4, lines 20-28. However, this portion of Hanson is silent with respect to this feature.

The Examiner further cited Hanson as having a control portion that controls so that a pointer is displayed in the display portion in accordance with operation of the touch panel. However, there is no pointer disclosed or suggested by Hanson.

In rejecting claim 26, the Examiner cited Hanson as having an organic EL layer. However, Hanson neither discloses nor suggests an electroluminescent layer of a transmission type display portion.

The Examiner further cited an approach detecting portion for detecting an operation object in Hirao, citing sections 28 and 29 of Hirao. However, section 29 discusses an eye sensor, as noting above. This is not an operation object. The eye is not used to operate the display apparatus of Hirao, it is submitted. It is noted that the eye sensor in Hirao appears to operate based on the position of the seat slide, further.

In rejecting claim 17, the Examiner cited Hirao as teaching that its display apparatus is mounted on a vehicle. The display apparatus of Hirao is mounted on a vehicle. However, this does not make it obvious to provide the display apparatus taught by Hanson to be mounted on a vehicle. The display apparatus of Hirao is particularly adapted to be mounted on a vehicle, and that fact relates to the entire invention of Hirao. However, as discussed above, the invention of Hanson is completely different. It is not suitable for a vehicle, and it would not be obvious to mount the large form factor display of Hanson in a vehicle. Nor would the use of the input output device 120 of Hanson be suitable for a vehicle. Thus it is respectfully submitted that the Examiner's conclusion is incorrect.

The Examiner further considered Hirao to teach that the approach detecting portion distinguishes whether the operation object is approaching in a direction from a driver's seat or a passenger's seat. The Examiner cited section 35 of Hirao. However, this section of Hirao simply describes the calculation of a driver's picture angle or viewing angle. There is no disclosure or suggestion of an approach detecting portion that distinguishes the direction of approach of an operation object.

Applicants reserve their rights to note further distinctions between the claims directed to the present invention and the cited references, even if not specifically discussed above. The fundamental point here is that Hanson is directed to a distinctly different kind of device than those that are mounted in a vehicle. Each of the claims requires that both a rearward display portion and the transmission type display portion be mounted in a vehicle. Display portion 110 of Hanson is not suitable for mounting in a vehicle in view of its size. Unit 120 of Hanson is not suitable for mounting in a vehicle in that it is required to be movable over the display 110; such movement would be undesirable in a vehicle. Further, if the unit 120 were to be mounted in a vehicle along with the display 110, such would frustrate the purpose of Hanson in having the unit 120 movable relative to the display 110.

Accordingly, it may be seen that all of the claims now pending in the present application clearly patentably distinguish over the references cited by the Examiner. Indication of such is respectfully requested.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact Applicants' undersigned representative.

Respectfully submitted,

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